

Remarks:

Applicant's independent claims 1, 12, and 17 now stand rejected (final) under 35 USC 103(a) in view of Souissi, et al (US 6,553,060).

Examiner notes that "Souissi's method avoids interference by not transmitting data on channels experiencing interference." Applicant holds that Souissi's method does not transmit at all on channels experiencing interference, and therefore does not transmit on such channels at the physical layer of the standard communication protocol model. Indeed, this is a distinguishing feature of Souissi. Applicant's invention is diametrically different from Souissi in that Applicant's invention deliberately transmits, at the physical layer, on channels experiencing interference.

This difference enables Applicant's invention to solve at least two problems that Souissi cannot solve.

The first problem is to conform to architectural standards while mitigating interference when a frequency-hopping system is required to visit all of the channels of a predetermined set of channels. In contrast to Applicant's invention, Souissi cannot both conform to the standard and mitigate interference in such situations, as Souissi transmits only on a selected subset of the channels chosen to be acceptably free of interference, rather than on the entire set of channels. Consequently, Souissi simply cannot be used to solve an important problem addressed by Applicant's invention, wherein there is a requirement to transmit at the physical layer on all of the channels whether interference is present or not.

The second problem is to move control of interference mitigation higher into the software stack by controlling the flow of data rather than by controlling the physical-layer operation of the

transmitter. Souissi is not able to do this, as Souissi requires altering the way in which the transmitter works at the physical layer in response to detecting interference.

Because Souissi's method cannot solve either of the two problems mentioned above, Applicant respectfully holds that the two methods, i.e., Applicant's method and Souissi, cannot be equivalent.

Examiner asserts that "there appears to be no functional difference between sending a packet which does not initiate a positive response at the receiver, and not sending data at all." In response, Applicant notes the functional differences just mentioned. Applicant further respectfully notes that the claims in question concern the operation of the transmitter, not the receiver, and that Applicant's transmitter and Souissi's transmitter do not operate in the same way, for the reasons given above.

Examiner acknowledges that "the transmission of null packets differs . . ." However, Examiner then goes on to say "but does not appear to describe any additional functionality over and above Souissi's apparatus in view of the fact that the null packets do not appear to be identified as adding any additional functionality versus not transmitting on interfered with channels. In essence, Examiner holds that the transmission of a null packet is a superfluous addition as there is no indicated functionality gained by said transmission of null packets."

Applicant respectfully disagrees with this reasoning. The transmission of null packets clearly provides additional functionality, in that (a) it enables conformance to architectural standards that require the transmitter to visit every channel of a predetermined set of channels, which Souissi simply cannot do; and (b) Applicant's invention enables moving control of interference mitigation to a higher level in the software stack.

Moreover, Examiner has not provided any citation of statutory, regulatory, or judicial citation supporting the notion that a hypothetical lack of additional function over a cited reference deems an invention ineligible for a patent. Even if the transmission of null packets were to provide no added functionality, which Applicant respectfully but vigorously traverses, the transmission of

null packets as disclosed by Applicant provides a distinct difference in that it enables simplified embodiments of transmitters using Applicant's invention, for the reasons given above regarding moving control of interference mitigation higher in the software stack.

More generally, each of Applicant's independent claims 1, 12, and 17 has as a limitation of "transmitting only null packets when hopping to a channel identified as experiencing interference." Applicant respectfully holds that Examiner has not provided a proper *prima facie* case for obviousness, as this limitation of the invention has not been found in any cited reference. There is no identified teaching, whatsoever, to transmit null packets on channels experiencing interference.

Claims 2-11 depend on claim 1. Applicant holds that since claim 1 is patentable, for the reasons given in this paper, so then are claims 2-11. Claims 13-16 depend on claim 12. Applicant holds that since claim 12 is patentable, for the reasons given in this paper, so then are claims 13-16. Claims 18-20 depend on claim 17. Applicant holds that since claim 17 is patentable, for the reasons given in this paper, so then are claims 18-20.

Consequently, Applicant believes that claims 1-20 are allowable for the reasons given above, and respectfully asks the Examiner to reconsider the rejections and allow these claims. Applicant sincerely thanks Examiner, and requests that the application now pass to issue.

Respectfully submitted,

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